

09/703,804

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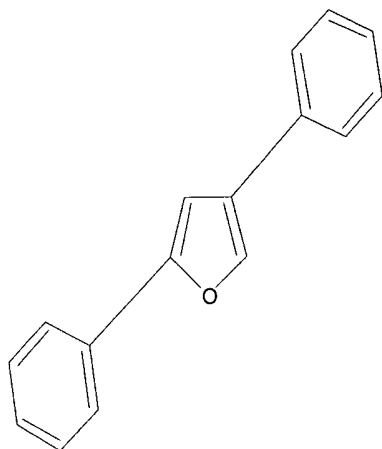
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L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



Formula (12)

Structure attributes must be viewed using STN Express query preparation.

=> s l1 sss full

FULL SEARCH INITIATED 18:07:57 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 18045 TO ITERATE

100.0% PROCESSED 18045 ITERATIONS

609 ANSWERS

SEARCH TIME: 00.00.01

L2 609 SEA SSS FUL L1

=> file caplus, uspatfull

FILE 'CAPLUS' ENTERED AT 18:08:54 ON 11 OCT 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE 'USPATFULL' ENTERED AT 18:08:54 ON 11 OCT 2002
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

=> s l2 and (avian? or bird? or chick?) and infectious(p)bursal?(p)disease(p)vir?
and (IBDV or IBD)
L3 1 L2 AND (AVIAN? OR BIRD? OR CHICK?) AND INFECTIOUS(P) BURSAL?(P)
DISEASE(P) VIR? AND (IBDV OR IBD)

=> d l3 abs ibib kwic 1

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A method is provided for treating **infectious bursal disease (IBD)** in an **avian** subject in need of such treatment. The method comprises administering to the subject a compd. of formulas I-IV [p = 1-8; A = O, S, NR (R = H, lower alkyl); X1, X2 = H, lower alkyl, lower alkoxy; R1, R2, X', X'', X3-X6 = lower alkyl, lower alkoxy, aryl, halo, etc.], or a pharmaceutically acceptable salt thereof, in an amt. sufficient to treat **IBD**. In another aspect, the invention provides a method of producing active immunity against **infectious bursal virus disease (IBD)** in an **avian** subject. The method comprises administering to a subject an immunogenic-amt. of an **IBDV** vaccine and a compd. selected from compds. I-IV. A compd. represented by I-IV is administered in an amt. sufficient to induce an immune response in the **avian** subject.

ACCESSION NUMBER: 2001:338336 CAPLUS
DOCUMENT NUMBER: 134:348244
TITLE: Methods and formulations using heterocyclic compounds for the treatment of infectious bursal disease in **avian** subjects
INVENTOR(S): Dykstra, Christine C.; Hudson, James C.; Tidwell, Richard R.; Boykin, David; Ewald, Sandra
PATENT ASSIGNEE(S): The University of North Carolina at Chapel Hill, USA; Auburn University; Georgia State University Research Foundation, Inc.
SOURCE: PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001032159	A2	20010510	WO 2000-US30066	20001101

WO 2001032159 A3 20020711

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
 HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
 LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
 YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-162877P P 19991101

OTHER SOURCE(S): MARPAT 134:348244

TI Methods and formulations using heterocyclic compounds for the treatment of infectious bursal disease in **avian** subjects

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ST heterocyclic deriv prepn **avian infectious bursal disease**; immunogen **avian infectious bursal virus disease** vaccine

IT Antiviral agents
 B cell (lymphocyte)
 Bird (Aves)
 Chicken (Gallus domesticus)
 Drug delivery systems
 Infectious bursal disease virus
 Vaccines

(heterocyclic compds. for treatment of **infectious bursal disease in avians**)
 IT 200878-40-6, 9H-Carbazole-2,7-dicarboximidamide
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (DAP 092; heterocyclic compds. for treatment of infectious bursal disease in **avians**)

IT 74733-75-8, BABIM 160522-92-9, DB 203 160522-95-2, DB 197
 242807-45-0, DB 453 338945-24-7, SW 066
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (heterocyclic compds. for treatment of infectious bursal disease in **avians**)

IT 229308-77-4P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

09/703,804

(heterocyclic compds. for treatment of infectious bursal disease in
avians)

IT 339049-82-0, DB 528

RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
(Uses)

(heterocyclic compds. for treatment of infectious bursal disease in
avians)

IT 107-15-3, 1,2-Diaminoethane, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction; heterocyclic compds. for treatment of infectious bursal
disease in **avians**)

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09/703,804

=>

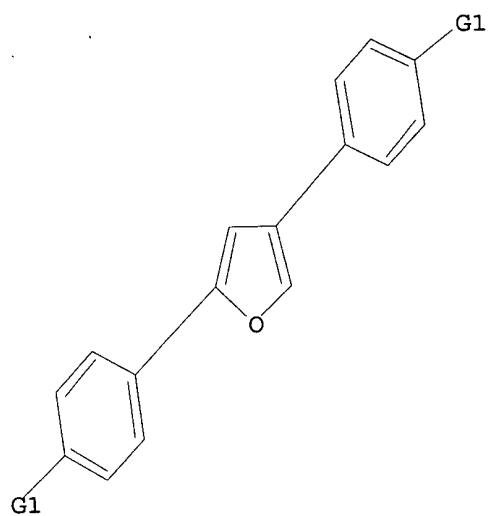
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L6 STRUCTURE UPLOADED

=> d 16

L6 HAS NO ANSWERS

L6 STR



G1 Cy,Hy,Ak

Structure attributes must be viewed using STN Express query preparation.

=> s 16 sss full

FULL SEARCH INITIATED 18:22:30 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 3391 TO ITERATE

100.0% PROCESSED 3391 ITERATIONS
SEARCH TIME: 00.00.01

54 ANSWERS

L7 54 SEA SSS FUL L6

09/703,804

(FILE 'HOME' ENTERED AT 18:06:34 ON 11 OCT 2002)

FILE 'REGISTRY' ENTERED AT 18:07:01 ON 11 OCT 2002

L1 STRUCTURE UPLOADED

L2 609 S L1 SSS FULL

FILE 'CAPLUS, USPATFULL' ENTERED AT 18:08:54 ON 11 OCT 2002

L3 1 S L2 AND (AVIAN? OR BIRD? OR CHICK?) AND INFECTIOUS(P)BURSAL?(P)

L4 296 S L2

L5 295 DUP REM L4 (1 DUPLICATE REMOVED)

FILE 'STNGUIDE' ENTERED AT 18:16:48 ON 11 OCT 2002

FILE 'REGISTRY' ENTERED AT 18:22:01 ON 11 OCT 2002

L6 STRUCTURE UPLOADED

L7 54 S L6 SSS FULL

FILE 'CAPLUS, USPATFULL' ENTERED AT 18:22:52 ON 11 OCT 2002

=> s 17 and (avian? or bird? or chick?) and infectious(p)bursal?(p)disease(p)vir?
and (IBDV or IBD)

L8 1 L7 AND (AVIAN? OR BIRD? OR CHICK?) AND INFECTIOUS(P) BURSAL?(P)
DISEASE(P) VIR? AND (IBDV OR IBD)

=> d 18 abs ibib kwic 1

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS

GI

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DOCUMENT NUMBER: 134:348244

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INVENTOR(S): Dykstra, Christine C.; Hudson, James C.; Tidwell, Richard R.; Boykin, David; Ewald, Sandra

PATENT ASSIGNEE(S): The University of North Carolina at Chapel Hill, USA; Auburn University; Georgia State University Research

Delacroix

SOURCE: Foundation, Inc.
 PCT Int. Appl., 58 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001032159	A2	20010510	WO 2000-US30066	20001101
WO 2001032159	A3	20020711		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
 HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
 LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
 YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-162877P P 19991101

OTHER SOURCE(S): MARPAT 134:348244

TI Methods and formulations using heterocyclic compounds for the treatment of infectious bursal disease in **avian** subjects

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 B cell (lymphocyte)
 Bird (Aves)
 Chicken (Gallus domesticus)
 Drug delivery systems
 Infectious bursal disease virus
 Vaccines

(heterocyclic compds. for treatment of **infectious bursal disease** in **avians**)
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 RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
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242807-45-0, DB 453 338945-24-7, SW 066
RL: AGR (Agricultural use); BAC (Biological activity or effector, except
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(heterocyclic compds. for treatment of infectious bursal disease in
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- IT 339049-82-0, DB 528
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
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(Uses)
(heterocyclic compds. for treatment of infectious bursal disease in
avians)
- IT 107-15-3, 1,2-Diaminoethane, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction; heterocyclic compds. for treatment of infectious bursal
disease in avians)

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09/703,804

FILE 'CAPLUS, USPATFULL' ENTERED AT 18:22:52 ON 11 OCT 2002
L8 1 S L7 AND (AVIAN? OR BIRD? OR CHICK?) AND INFECTIOUS(P)BURSAL?(

=> s 17

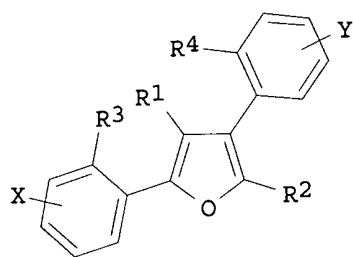
L9 20 L7

=> s 19 and py<=1999

L10 14 L9 AND PY<=1999

=> d 110 abs ibib hitstr 1-14

L10 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2002 ACS
GI



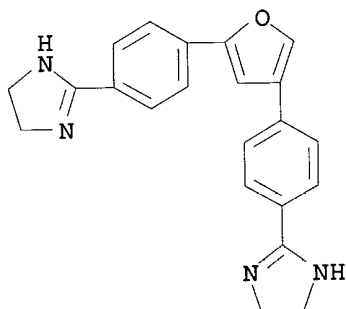
AB Title compds. [I; R1, R2 = H, alkyl, aryl, alkylaryl, aminoalkyl, aminoaryl, halo, oxyalkyl, oxyaryl, oxyarylalkyl; R3, R4 = H, alkyl, oxyalkyl, alkylaryl, aryl, oxyaryl, aminoalkyl, aminoaryl, halo; X, Y are para or meta and = H, alkyl, oxyalkyl, C(:NR5)NR5R6; R5 = H, alkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, cycloalkyl, aryl, alkylaryl; R5R5 = alkyl, hydroxyalkyl, alkylene; R6 = H, OH, alkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylamino, alkylaminoalkyl, cycloalkyl, hydroxycycloalkyl, alkoxycycloalkyl, aryl, alkylaryl], were prepd. Thus, 2,4-bis(4-ethoxyiminoylphenyl)furan dihydrochloride (prepn. given) and iPrNH2 were stirred 24 h in EtOH to give 2,4-bis[4-[N-(isopropylamidino)phenyl]]furan dihydrochloride. The latter at 5 .mu.mol/kg/day in rats reduced Pneumocystis carinii lung cysts to 0.0003% of controls.

ACCESSION NUMBER: 1999:597470 CAPLUS
DOCUMENT NUMBER: 131:214184
TITLE: Preparation of 2,4-bis(4-amidinophenyl)furans as anti-pneumocystis carinii agents
INVENTOR(S): Boykin, David W.; Francesconi, Iris; Wilson, David W.; Tidwell, Richard R.
PATENT ASSIGNEE(S): University of North Carolina at Chapel Hill, USA; Georgia State University
SOURCE: Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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09/703,804

EP 941991 A1 19990915 EP 1998-305895 19980723 <--
EP 941991 B1 20011205
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO
US 6008247 A 19991228 US 1998-32586 19980227 <--
AU 9877453 A1 19990909 AU 1998-77453 19980723 <--
AU 747448 B2 20020516
EP 1130019 A1 20010905 EP 2000-128456 19980723
R: DE, FR, IT
GB 2334716 A1 19990901 GB 1998-16054 19980724 <--
GB 2334716 B2 20000517
GB 2343677 A1 20000517 GB 1999-27514 19980724
GB 2343677 B2 20000816
JP 2000256343 A2 20000919 JP 1998-217593 19980731
US 6127554 A 20001003 US 1999-311437 19990514
PRIORITY APPLN. INFO.: US 1998-32586 A 19980227
EP 1998-305895 A3 19980723
GB 1998-16054 A3 19980724
OTHER SOURCE(S): MARPAT 131:214184
IT 229308-77-4P 229308-78-5P 229308-83-2P
242807-42-7P 242807-43-8P 242807-44-9P
242807-45-0P 242807-46-1P 242807-47-2P
242807-48-3P 242807-49-4P 242807-50-7P
242807-51-8P 242807-52-9P 242807-53-0P
242807-54-1P 242807-55-2P 242807-56-3P
242807-57-4P 242807-58-5P 242807-59-6P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of 2,4-bis(4-amidinophenyl)furans as anti-pneumocystis carinii
agents)
RN 229308-77-4 CAPLUS
CN 1H-Imidazole, 2,2'-(2,4-furandiyl-di-4,1-phenylene)bis[4,5-dihydro-,
dihydrochloride (9CI) (CA INDEX NAME)

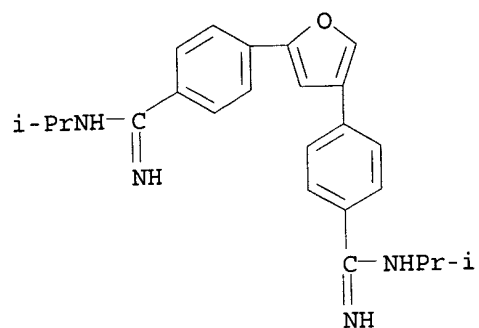


●2 HCl

RN 229308-78-5 CAPLUS
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dihydrochloride (9CI) (CA INDEX NAME)

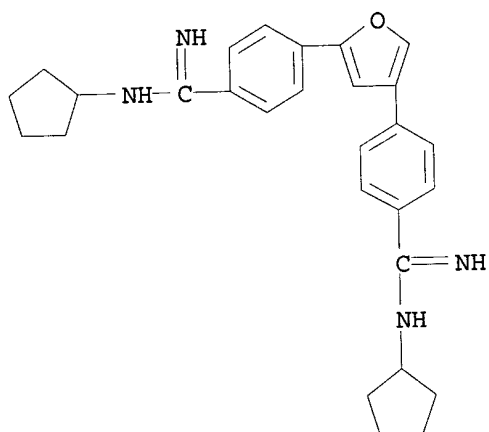
Delacroix

09/703,804



●2 HCl

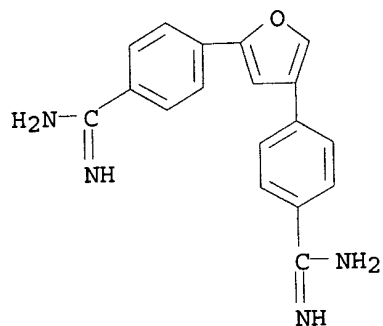
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dihydrochloride (9CI) (CA INDEX NAME)



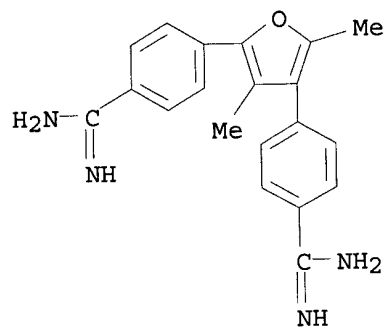
●2 HCl

RN 242807-42-7 CAPLUS
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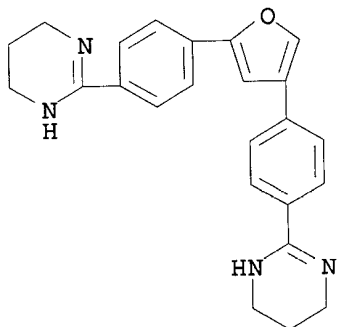
09/703,804



RN 242807-43-8 CAPLUS
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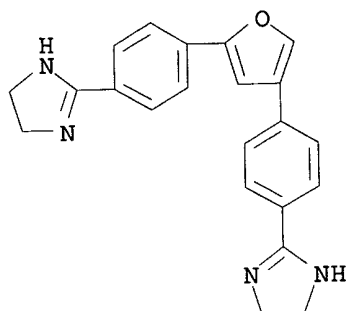


RN 242807-44-9 CAPLUS
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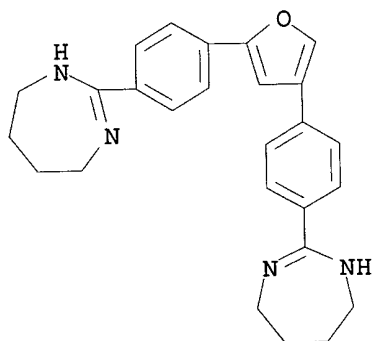


RN 242807-45-0 CAPLUS
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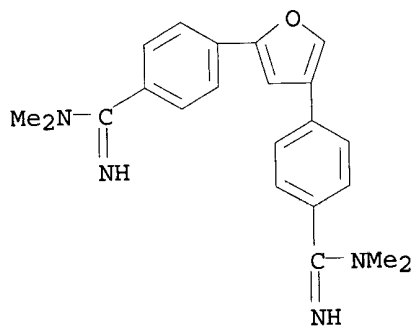
09/703,804



RN 242807-46-1 CAPLUS
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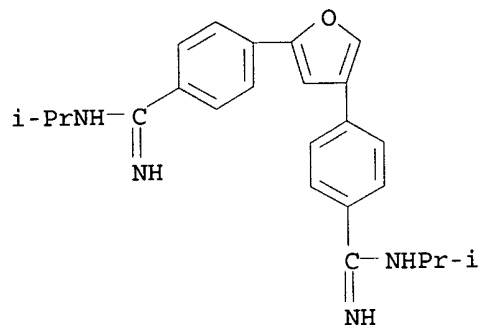


RN 242807-47-2 CAPLUS
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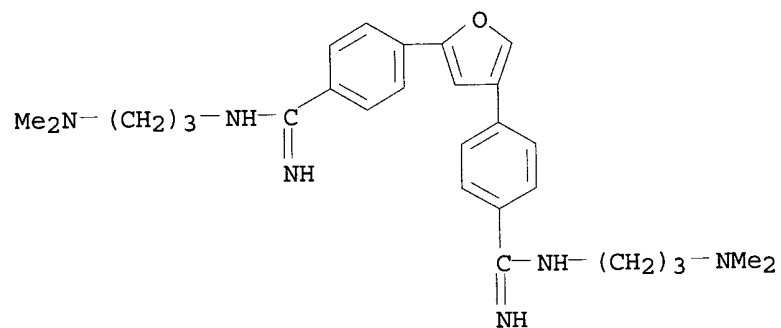


RN 242807-48-3 CAPLUS
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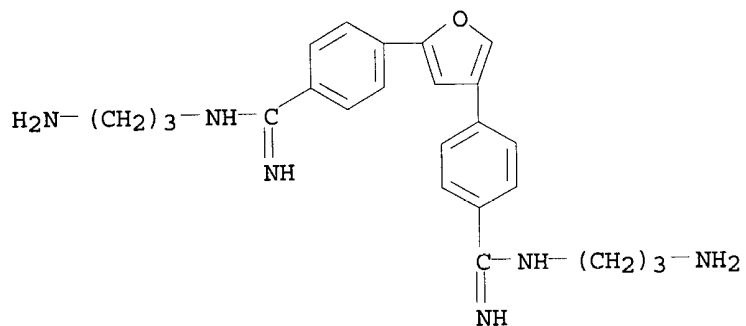
09/703,804



RN 242807-49-4 CAPLUS
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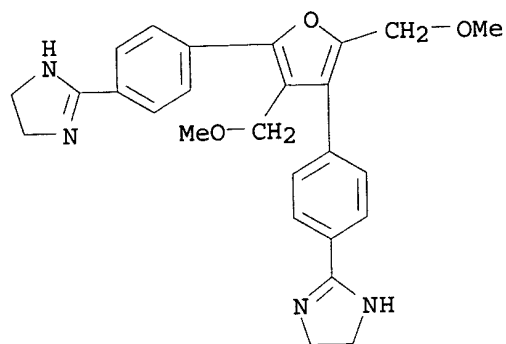


RN 242807-50-7 CAPLUS
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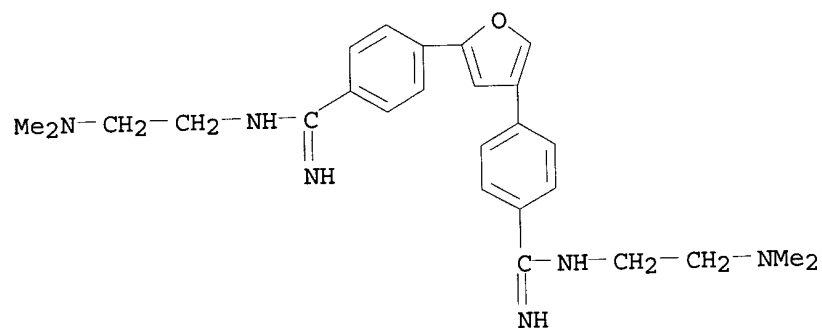


RN 242807-51-8 CAPLUS
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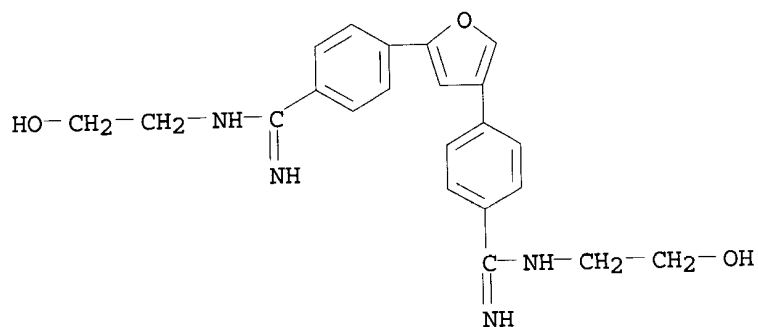
09/703,804



RN 242807-52-9 CAPLUS
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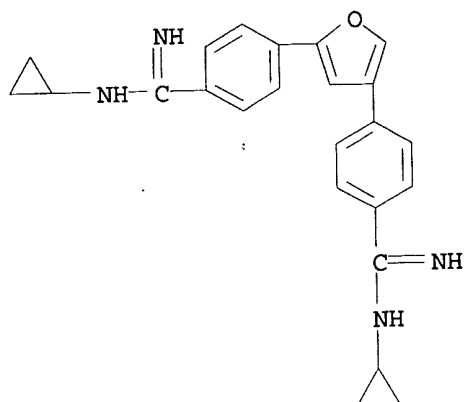


RN 242807-53-0 CAPLUS
 CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-hydroxyethyl)- (9CI)
 (CA INDEX NAME)

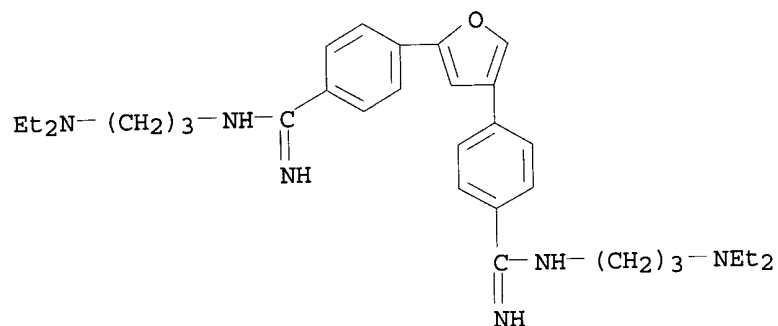


RN 242807-54-1 CAPLUS
 CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopropyl- (9CI) (CA
 INDEX NAME)

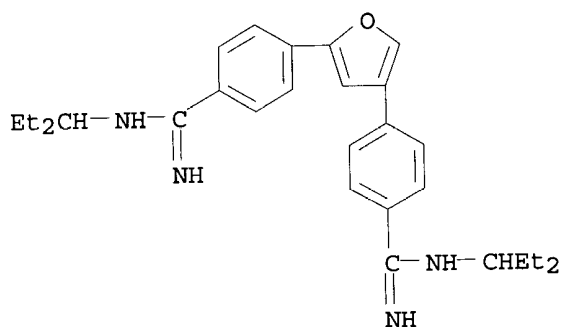
09/703,804



RN 242807-55-2 CAPLUS
 CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[3-(diethylamino)propyl]-(9CI) (CA INDEX NAME)

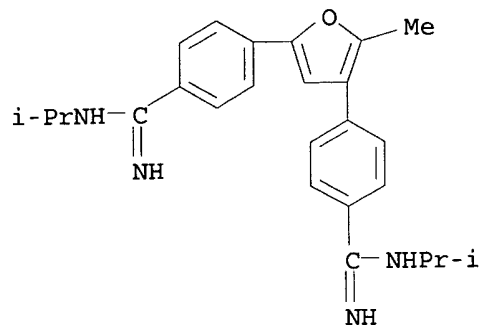


RN 242807-56-3 CAPLUS
 CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(1-ethylpropyl)-(9CI) (CA INDEX NAME)

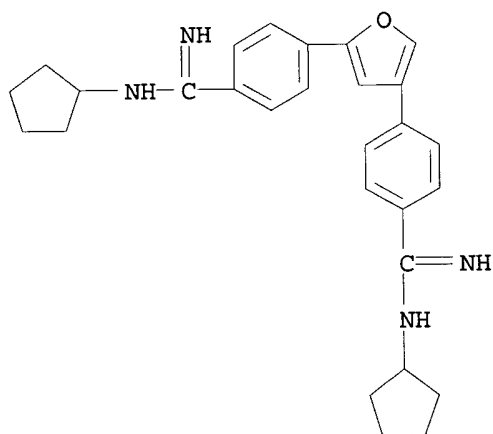


RN 242807-57-4 CAPLUS
 CN Benzenecarboximidamide, 4,4'-(5-methyl-2,4-furandiyl)bis[N-(1-methylethyl)-(9CI) (CA INDEX NAME)

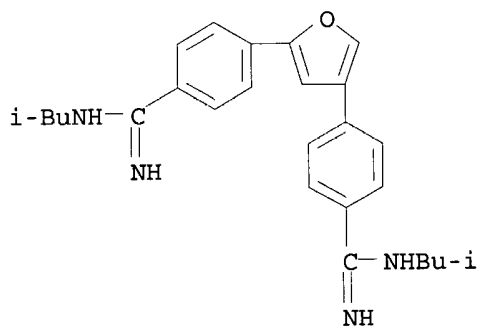
09/703,804



RN 242807-58-5 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopentyl- (9CI) (CA
INDEX NAME)



RN 242807-59-6 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-methylpropyl) - (9CI)
(CA INDEX NAME)



IT 229308-74-1P 229308-75-2P 229308-76-3P
229308-81-0P 242807-61-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. of 2,4-bis(4-amidinophenyl)furans as anti-pneumocystis carinii

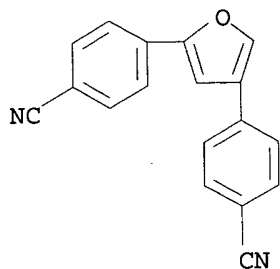
Delacroix

09/703,804

agents)

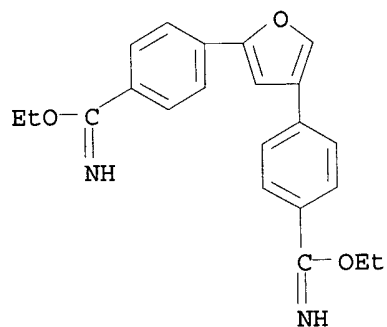
RN 229308-74-1 CAPLUS

CN Benzonitrile, 4,4'-(2,4-furandiyl)bis- (9CI) (CA INDEX NAME)



RN 229308-75-2 CAPLUS

CN Benzenecarboximidic acid, 4,4'-(2,4-furandiyl)bis-, diethyl ester, dihydrochloride (9CI) (CA INDEX NAME)

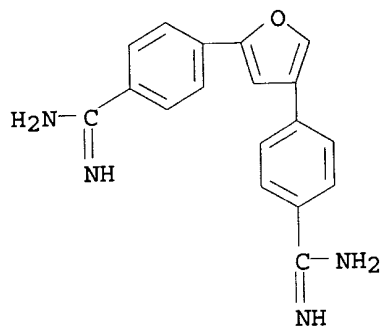


● 2 HCl

RN 229308-76-3 CAPLUS

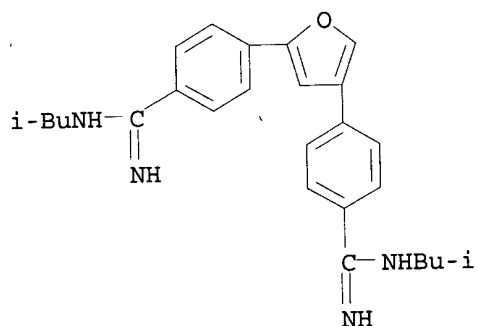
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis-, dihydrochloride (9CI)
(CA INDEX NAME)

09/703,804



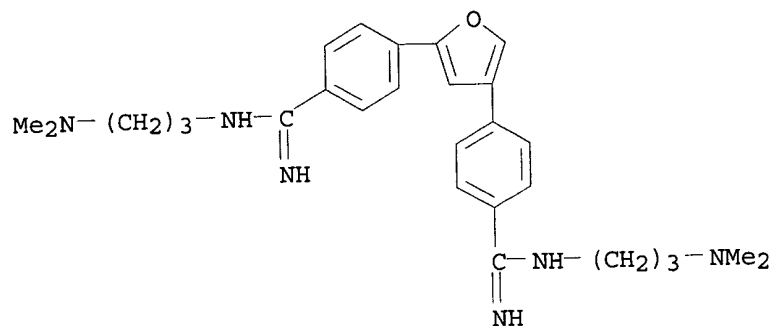
●2 HCl

RN 229308-81-0 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-methylpropyl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

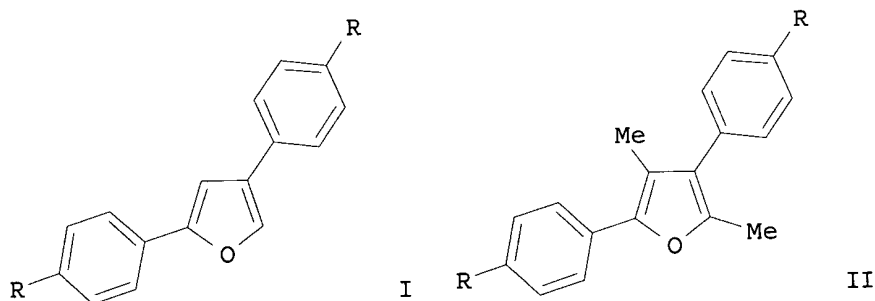
RN 242807-61-0 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[3-(dimethylamino)propyl]-, tetrahydrochloride (9CI) (CA INDEX NAME)



● 4 HCl

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2002 ACS
GI

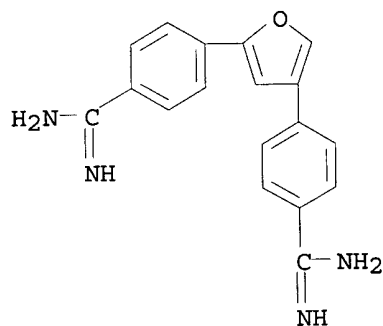


AB Dicationic 2,4-bis(4-amidinophenyl)furans I [R = C(NH₂):NH.HCl, C(NHCHMe₂):NH.HCl, C(:NH)NHR₁.HCl, etc., R₁ = cyclopentyl] and 2,4-bis(4-amidinophenyl)-3,5-dimethylfurans II [R = C(NH₂):NH.HCl, C(NHCHMe₂):NH.HCl] have been synthesized. Thermal melting studies revealed high binding affinity of the compds. to poly(dA-dT) and to the duplex oligomer d(CGCGAATTCGCG)₂. All of the new compds. were effective against *Pneumocystis carinii* pneumonia in the immunosuppressed rat model with up to 200-fold increase in activity compared to the control compd. pentamidine. No toxicity was noted for I [R = C(NH₂):NH.HCl, C(NHCHMe₂):NH.HCl, C(NH-cyclopropyl):NH.HCl, C(NHCH₂CHMe₂):NH.HCl, C(NH-cyclopentyl):NH.HCl], at the dose of 10 .mu.mol/kg/d; however, the iso-Pr analog showed toxicity comparable to pentamidine at the dosage of 20 .mu.mol/kg/d. Dimethylation of the parent compd. on the furan ring resulted in reduced activity and increased toxicity.

ACCESSION NUMBER: 1999:294266 CAPLUS
DOCUMENT NUMBER: 131:87773
TITLE: 2,4-Diphenyl furan diamidines as novel
anti-*Pneumocystis carinii* pneumonia agents

09/703,804

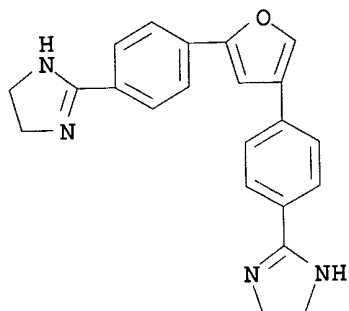
AUTHOR(S): Francesconi, Iris; Wilson, W. David; Tanious, Farial A.; Hall, James E.; Bender, Brendan C.; Tidwell, Richard R.; McCurdy, Donald; Boykin, David W.
CORPORATE SOURCE: Department of Chemistry and Center for Biotechnology and Drug Design, Georgia State University, Atlanta, GA, 30303-3083, USA
SOURCE: Journal of Medicinal Chemistry (1999), 42(12), 2260-2265
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 229308-76-3P 229308-77-4P 229308-78-5P
229308-79-6P 229308-81-0P 229308-83-2P
229308-87-6P 229308-88-7P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn., DNA binding, and anti-pneumocystis carinii pneumonia activity of diphenylfuran diamidines)
RN 229308-76-3 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis-, dihydrochloride (9CI)
(CA INDEX NAME)



● 2 HCl

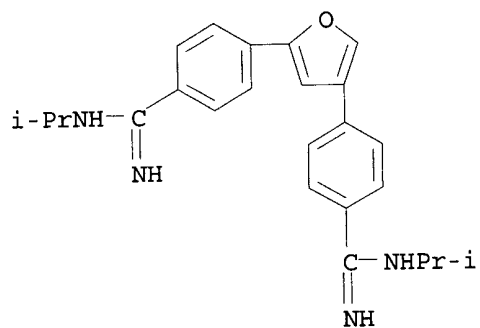
RN 229308-77-4 CAPLUS
CN 1H-Imidazole, 2,2'-(2,4-furandiyl)di-4,1-phenylene)bis[4,5-dihydro-, dihydrochloride (9CI) (CA INDEX NAME)

09/703,804



● 2 HCl

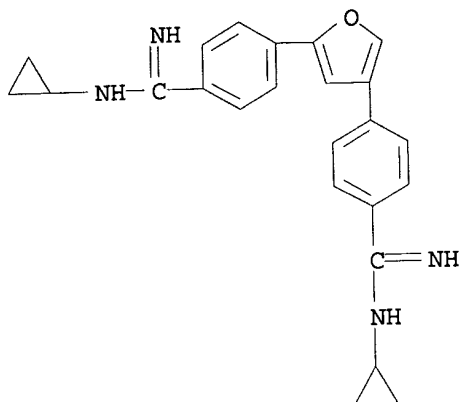
RN 229308-78-5 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(1-methylethyl)-, dihydrochloride (9CI) (CA INDEX NAME)



● 2 HCl

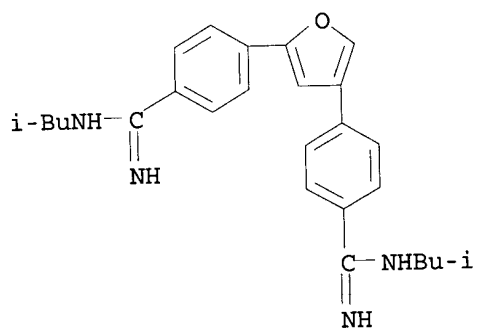
RN 229308-79-6 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopropyl-, dihydrochloride (9CI) (CA INDEX NAME)

09/703,804



●2 HCl

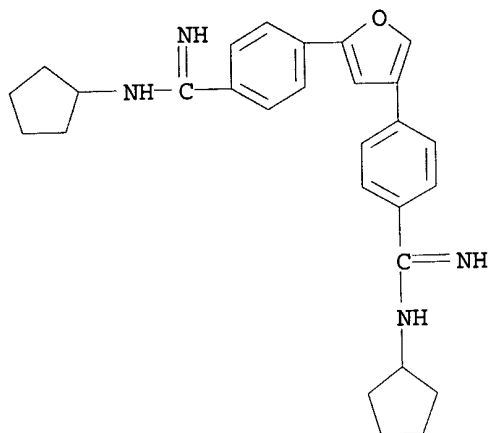
RN 229308-81-0 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-methylpropyl)-,
dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

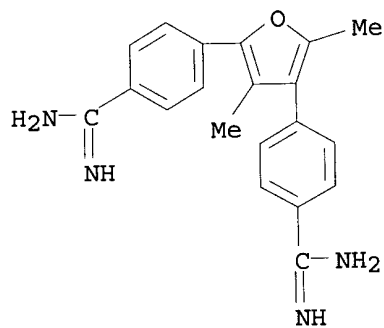
RN 229308-83-2 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopentyl-,
dihydrochloride (9CI) (CA INDEX NAME)

09/703,804



●2 HCl

RN 229308-87-6 CAPLUS
CN Benzenecarboximidamide, 4,4'-(3,5-dimethyl-2,4-furandiyl)bis-,
dihydrochloride (9CI) (CA INDEX NAME)

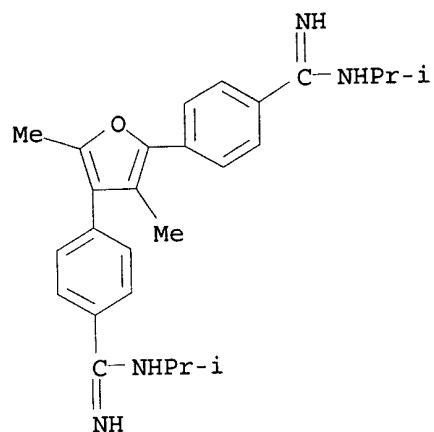


●2 HCl

RN 229308-88-7 CAPLUS
CN Benzenecarboximidamide, 4,4'-(3,5-dimethyl-2,4-furandiyl)bis[N-(1-methylethyl)-, dihydrochloride (9CI) (CA INDEX NAME)

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09/703,804



●2 HCl

IT 229308-74-1P 229308-75-2P 229308-84-3P

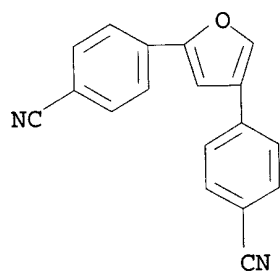
229308-86-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn., DNA binding, and anti-pneumocystis carinii pneumonia activity of diphenylfuran diamidines)

RN 229308-74-1 CAPLUS

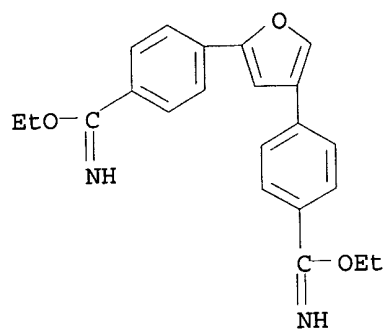
CN Benzonitrile, 4,4'-(2,4-furandiyl)bis- (9CI) (CA INDEX NAME)



RN 229308-75-2 CAPLUS

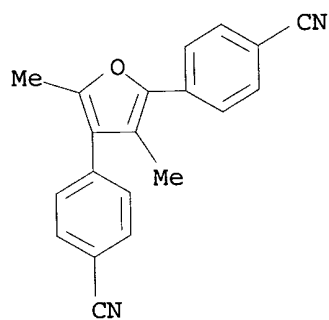
CN Benzenecarboximidic acid, 4,4'-(2,4-furandiyl)bis-, diethyl ester, dihydrochloride (9CI) (CA INDEX NAME)

09/703,804

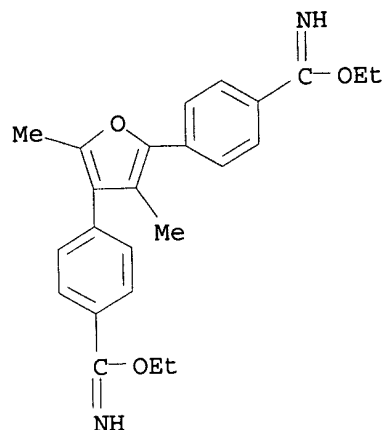


●2 HCl

RN 229308-84-3 CAPLUS
CN Benzonitrile, 4,4'-(3,5-dimethyl-2,4-furandiyl)bis- (9CI) (CA INDEX NAME)



RN 229308-86-5 CAPLUS
CN Benzenecarboximidic acid, 4,4'-(3,5-dimethyl-2,4-furandiyl)bis-, diethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



● 2 HCl

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2002 ACS

AB Oxidn. of unsym. diarylacetylenes $\text{ArC}\equiv\text{C}\text{Ar}'$ in the $\text{CF}_3\text{COOH}-\text{CH}_2\text{Cl}_2-\text{PbO}_2$ system at 0-2.degree.C in 1-3 h yields either pure 1,2,3,4-tetraaryl-2-butene-1,4-diones or mixts. of three isomeric .gamma.-diketones $\text{Ar}(\text{Ar}'\text{CO})\text{C}:\text{C}(\text{COAr}')\text{Ar}$, $\text{Ar}'(\text{ArCO})\text{C}:\text{C}(\text{COAr})\text{Ar}'$, and $\text{Ar}'(\text{ArCO})\text{C}:\text{C}(\text{COAr}')\text{Ar}$, which are predominantly Z isomers. The effect of electronic properties of the substituents in diarylacetylenes on the regio- and stereoselectivity of the reaction is discussed.

ACCESSION NUMBER: 1998:478061 CAPLUS

DOCUMENT NUMBER: 129:202730

TITLE: Oxidation of aromatic compounds. VI. Oxidation of unsymmetrical diarylacetylenes in the $\text{CF}_3\text{COOH}-\text{CH}_2\text{Cl}_2-\text{PbO}_2$ system

AUTHOR(S): Vasil'ev, A. V.; Rudenko, A. P.

CORPORATE SOURCE: St. Petersburg Academy of Wood Engineering, St. Petersburg, 194021, Russia

SOURCE: Russian Journal of Organic Chemistry (Translation of Zhurnal Organicheskoi Khimii) (1997), 33(11), 1555-1584

CODEN: RJOCEQ; ISSN: 1070-4280

PUBLISHER: MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 129:202730

IT 212002-26-1P 212002-28-3P 212002-29-4P

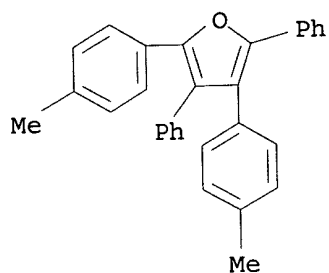
212002-30-7P 212002-46-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(oxidative dimerization of unsym. diarylacetylenes in the $\text{CF}_3\text{COOH}-\text{CH}_2\text{Cl}_2-\text{PbO}_2$ system)

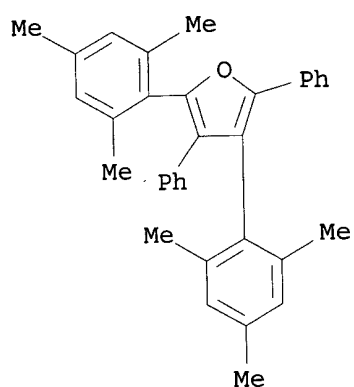
RN 212002-26-1 CAPLUS

CN Furan, 2,4-bis(4-methylphenyl)-3,5-diphenyl- (9CI) (CA INDEX NAME)

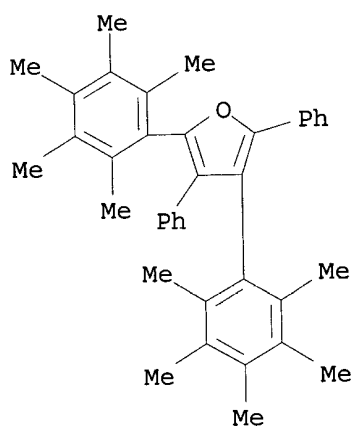
09/703,804



RN 212002-28-3 CAPLUS
CN Furan, 2,4-diphenyl-3,5-bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)

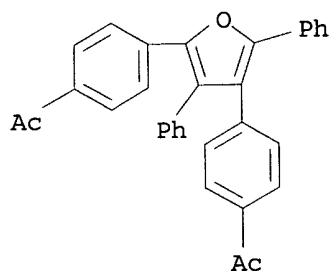


RN 212002-29-4 CAPLUS
CN Furan, 2,4-bis(pentamethylphenyl)-3,5-diphenyl- (9CI) (CA INDEX NAME)

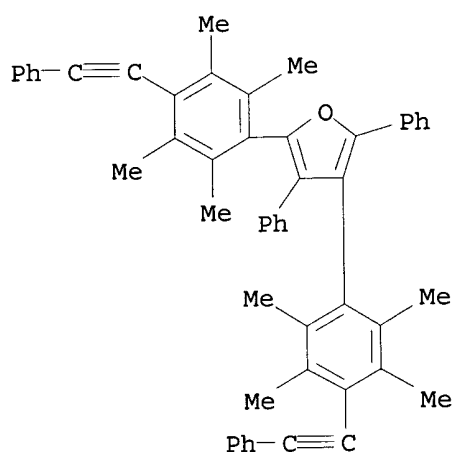


RN 212002-30-7 CAPLUS
CN Ethanone, 1,1'-[(3,5-diphenyl-2,4-furandiyl)di-4,1-phenylene]bis- (9CI)
(CA INDEX NAME)

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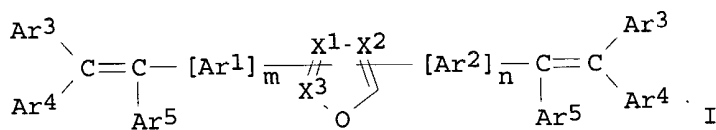


RN 212002-46-5 CAPLUS
 CN Furan, 2,4-diphenyl-3,5-bis[2,3,5,6-tetramethyl-4-(phenylethynyl)phenyl] -
 (9CI) (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2002 ACS
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AB Title materials are oxazole derivs. I [X1-3 = N, CH, or C bonding with Ar1
 or Ar2, where X1 or X3 is C; Ar1-2 = arylene; Ar3-5 = H, cyano, (cyclo)
 alkyl, aryl, heterocycle; m, n = 0-4]. Electroluminescent devices
 including layers (preferably emitting layers) contg. I are also claimed.

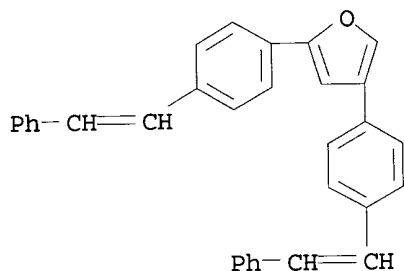
ACCESSION NUMBER: 1998:361085 CAPLUS
 DOCUMENT NUMBER: 129:47261
 TITLE: Organic electroluminescent materials and devices using

09/703,804

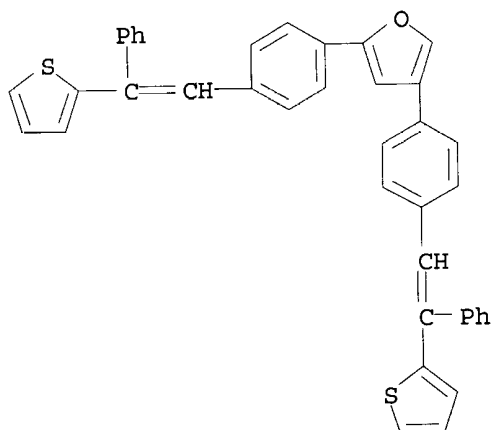
INVENTOR(S): the same with high luminance and long life
Okutsu, Satoshi; Onikubo, Shunichi; Tamano, Michiko;
Enokida, Toshio
PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10152676	A2	19980609	JP 1996-313289	19961125 <--

OTHER SOURCE(S): MARPAT 129:47261
IT 208124-87-2 208124-88-3 208124-89-4
208124-90-7 208124-91-8 208125-00-2
RL: DEV (Device component use); USES (Uses)
(org. electroluminescent devices including unsatd.-group-contg. oxazole
derivs. with high luminance and long life)
RN 208124-87-2 CAPLUS
CN Furan, 2,4-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

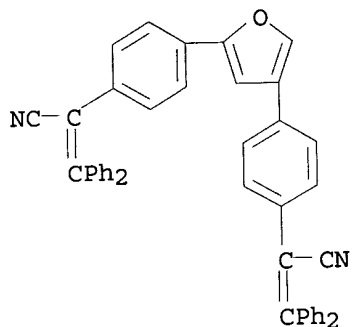


RN 208124-88-3 CAPLUS
CN Furan, 2,4-bis[4-[2-phenyl-2-(2-thienyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)

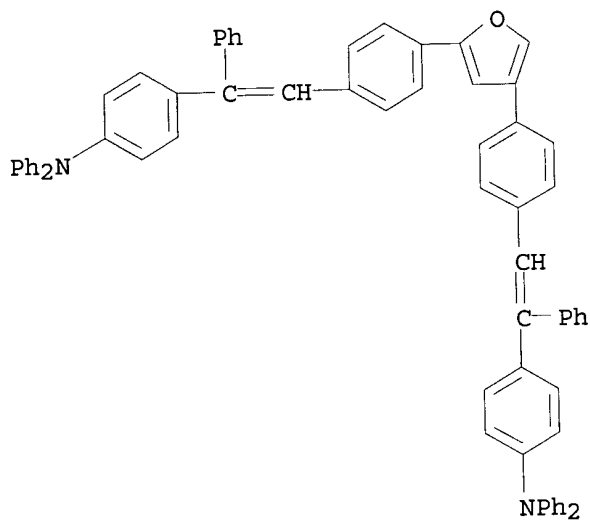


09/703,804

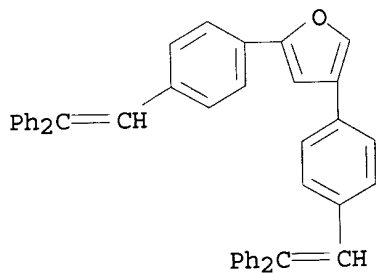
RN 208124-89-4 CAPLUS
CN Benzeneacetonitrile, 4,4'-(2,4-furandiyl)bis[.alpha.-(diphenylmethylene)-
(9CI) (CA INDEX NAME)



RN 208124-90-7 CAPLUS
CN Benzenamine, 4,4'-[2,4-furandiylbis[4,1-phenylene(1-phenyl-2,1-ethenediyl)]]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

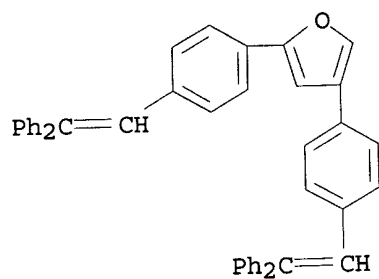


RN 208124-91-8 CAPLUS
CN Furan, 2,4-bis[4-(2,2-diphenylethenyl)phenyl]- (9CI) (CA INDEX NAME) -



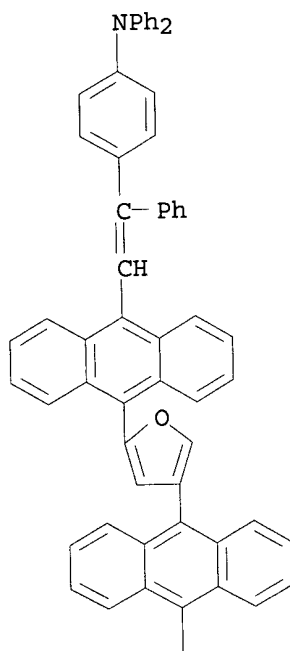
Delacroix

09/703,804

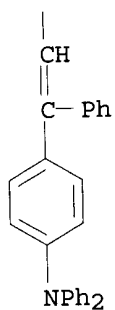


RN 208125-00-2 CAPLUS
CN Benzenamine, 4,4'-[2,4-furandiylbis[10,9-anthracenediyl(1-phenyl-2,1-ethenediyl)]]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

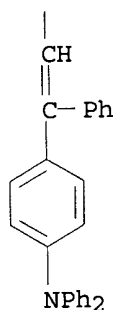
PAGE 1-A



PAGE 2-A



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L10 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2002 ACS

AB Selenophene 1,1-dioxides are thermally far more labile than the corresponding thiophene 1,1-dioxides. Even heavily substituted tetraphenylselenophene 1,1-dioxide (I) decompd., by a process not involving cyclodimerization, when heated above its m.p. or heated in refluxing toluene. Thus, the thermolysis of I in refluxing toluene afforded tetraphenylselenophene (II) 6, tetraphenylfuran 71, (Z)-1,2,3,4-tetraphenyl-2-butene-1,4-dione (III) 19, (E)-1,2,3,4-tetraphenyl-2-butene-1,4-dione (IV) 4, SeO₂ 23, and Se 22%, while that of the neat sample gave II 5, III 78, IV 17, SeO₂ 17, and Se 29%. Similar results were also obtained on thermolysis of a series of selenophene 1,1-dioxides. The exptl. observations (influence of solvents, oxygen, and additive such as diene to the decompn. rate and the presence of induction period) revealed that the mechanism of the decompn. is highly complex. A tentative mechanism that can explain the obsd. products is presented.

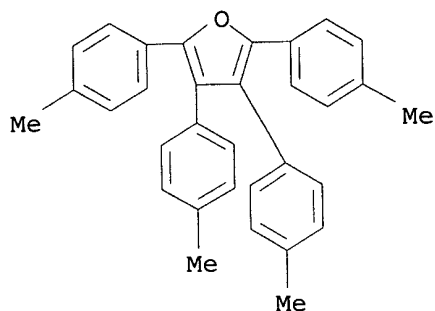
ACCESSION NUMBER: 1998:211855 CAPLUS
 DOCUMENT NUMBER: 128:282761
 TITLE: Thermolysis of selenophene 1,1-dioxides
 AUTHOR(S): Umezawa, Takashi; Matsui, Tomoki; Sugihara, Yoshiaki; Ishii, Akihiko; Nakayama, Juzo
 CORPORATE SOURCE: Dep. Chem., Fac. Sci., Saitama Univ., Saitama, 338, Japan
 SOURCE: Heterocycles (1998), 48(1), 61-69
 CODEN: HTCYAM; ISSN: 0385-5414
 PUBLISHER: Japan Institute of Heterocyclic Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English

IT 99643-62-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (thermolysis of selenophene 1,1-dioxides)

RN 99643-62-6 CAPLUS

CN Furan, tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



L10 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2002 ACS

AB The title reactions were carried out at 0-20.degree. for 1-3 h and yielded (Z)-1,2,3,4-tetraarylbut-2-ene-1,4-diones.

ACCESSION NUMBER: 1996:335502 CAPLUS

DOCUMENT NUMBER: 125:114246

TITLE: Oxidation of aromatic compounds. IV. Oxidation of symmetrical diarylacetylenes in the CF₃COOH-CH₂Cl₂-PbO₂ system. Novel one-reactor method for synthesis of 1,2,3,4-tetraarylbut-2-ene-1,4-diones

AUTHOR(S): Rudenko, A. P.; Vasil'ev, A. V.

CORPORATE SOURCE: St. Petersburg. Lesotekh. Akad., St. Petersburg, Russia

SOURCE: Zhurnal Organicheskoi Khimii (1995), 31(10),

1502-1522

CODEN: ZORKAE; ISSN: 0514-7492

PUBLISHER: Nauka

DOCUMENT TYPE: Journal

LANGUAGE: Russian

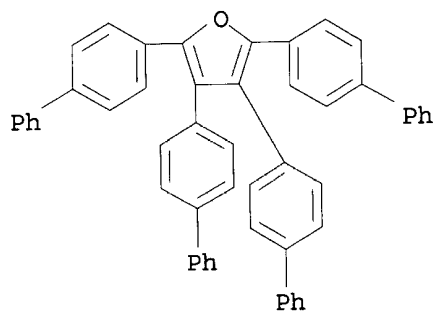
IT 105770-34-1P 179244-56-5P

RL: SPN (Synthetic preparation); PREP (Preparation)

(oxidn. of diarylacetylenes in the CF₃COOH-CH₂Cl₂-PbO₂ system)

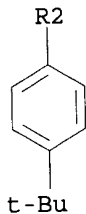
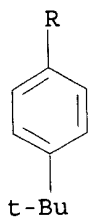
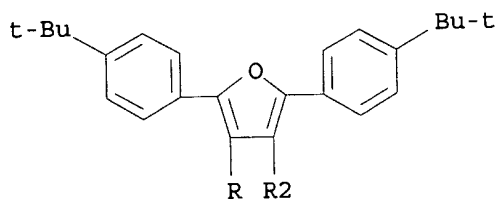
RN 105770-34-1 CAPLUS

CN Furan, tetrakis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



RN 179244-56-5 CAPLUS

CN Furan, tetrakis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



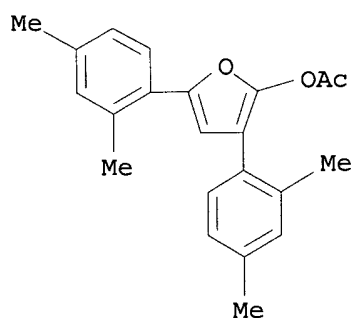
L10 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2002 ACS
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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

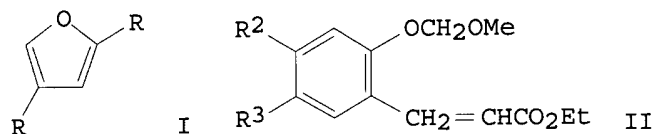
AB The hitherto unknown 4,6-diaryl-2,3,4,5- tetrahydropyridazin-3-ones I (Ar = Ar' = 2,4-Me₂C₆H₃; Ar = 3,4-Me₂C₆H₃, 2-Br-4-Me-C₆H₃, Ar' = 2,5-Me₂C₆H₃, 2,4-Me₂C₆H₃, 3,4-Me₂C₆H₃, 2-Me-5-CHMe₂C₆H₃) were synthesized from the .alpha.-aryl, .beta.-aroylpropionic acids ArCOCH₂CHAr'CO₂H by their reaction with hydrazine hydrate. I (Ar = Ar' = 2,4-Me₂C₆H₃) afforded the corresponding 3-chloropyridazine deriv. on its reaction with POCl₃, PCl₅. The 3-chloropyridazine was treated with sodium azide producing the tetrazolopyridazine deriv. II or with acylhydrazines Ar'CONHNH₂ (Ar = Ph, 2-HOC₆H₄, 3-pyridinyl) to give the triazolopyridazine derivs. III. Other pyridazine derivs. and butenolides were also prepd.

ACCESSION NUMBER: 1996:233054 CAPLUS
DOCUMENT NUMBER: 125:10725
TITLE: Synthesis and reactions of 4,6-diaryl-2,3,4,5-
tetrahydropyridazin-3-ones
AUTHOR(S): Sayed, M.A.; El- Khamry, A.A.; Soliman, A.Y.; Afify,

A.A.; Kassab, E.A.
 CORPORATE SOURCE: Faculty of Science, Ain Shams University, Cairo, Egypt
 SOURCE: Egyptian Journal of Chemistry (1995), 38(1),
 1-13
 CODEN: EGJCA3; ISSN: 0367-0422
 PUBLISHER: National Information and Documentation Centre
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 120996-43-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. and reactions of diarylpyridazinones)
 RN 120996-43-2 CAPLUS
 CN 2-Furanol, 3,5-bis(2,4-dimethylphenyl)-, acetate (9CI) (CA INDEX NAME)



L10 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2002 ACS
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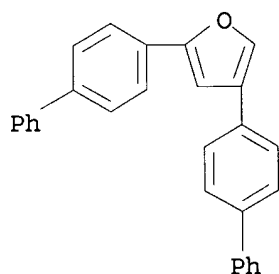


AB The enolates, generated from phenacyl bromides RCOCH_2Br ($\text{R} = \text{Ph}$, 4- $\text{R}_1\text{C}_6\text{H}_4$, $\text{R}_1 = \text{Br}$, Cl , Ph) by sodium telluride, yield 2,4-diarylfurans I in addn. to the expected dehalogenation products. No 1,4-dicarbonyl compds. could be isolated even in the presence of excess oxidizing agent, CuCl_2 . Condensation of 2-(methoxymethoxy)arenecarboxaldehydes with Et bromoacetate in the presence of sodium telluride gave the expected .alpha.,.beta.-unsatd. esters II ($\text{R}_2 = \text{H}$, $\text{R}_3 = \text{H}$, Cl ; $\text{R}_2 = \text{NEt}_2$, $\text{R}_3 = \text{H}$) which resisted cyclization to yield the desired coumarin derivs. Attempted intramol. Reformatsky-type reaction of 2-(bromoacetoxy)benzaldehyde gave only 6,12-epoxy-6H,12H-dibenzo[b,f][1,5]dioxocin as the major product.

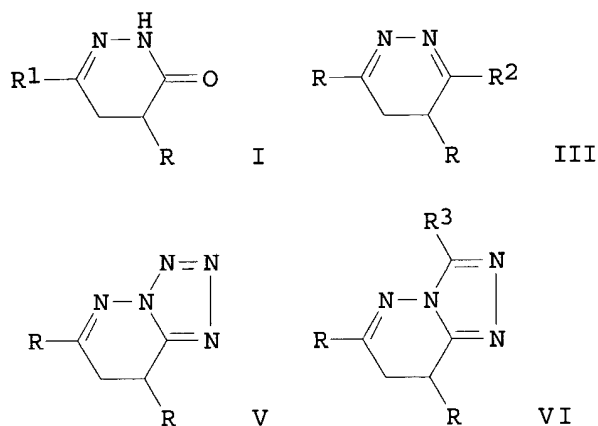
ACCESSION NUMBER: 1990:55487 CAPLUS
 DOCUMENT NUMBER: 112:55487
 TITLE: Formation of furan derivatives from phenacyl bromides and sodium telluride; attempted extension to coumarin synthesis

09/703,804

AUTHOR(S): Padmanabhan, Seetharamaiyer; Ogawa, Takuji; Suzuki, Hitomi
CORPORATE SOURCE: Fac. Sci., Ehime Univ., Matsuyama, 790, Japan
SOURCE: Bull. Chem. Soc. Jpn. (1989), 62(6), 2114-16
CODEN: BCSJA8; ISSN: 0009-2673
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 112:55487
IT 79421-36-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 79421-36-6 CAPLUS
CN Furan, 2,4-bis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



L10 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2002 ACS
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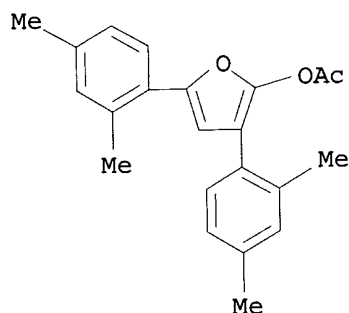


AB 4,6-Diarylpyridazinones I (R, R1 = substituted Ph) were prepd. by the reaction of R1COCH2CHR(O2H with N2H4. I (R = R1 = 2,4-Me2C6H3) (II) reacted with PCl5/POCl3 to give 3-chloropyridazine III (R = 2,4-Me2C6H3, R2 = Cl) (IV). Reaction of IV with NaN3 and R3CONHNH2 (R3 = Ph, 2-HOC6H4, 3-pyridinyl) gave tetrazolopyridazine V and triazolopyridazines VI, resp. Reaction of II with R4CH2COCl (R4 = H, Cl) gave acylpyridazines III (R2 =

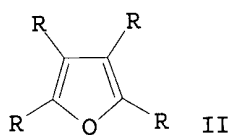
Delacroix

O2CCH2R4). Other reactions of I are also reported.

ACCESSION NUMBER: 1989:407321 CAPLUS
 DOCUMENT NUMBER: 111:7321
 TITLE: Synthesis and reactions of 4,6-diaryl-2,3,4,5-tetrahydropyridazin-3-ones
 AUTHOR(S): Sayed, M. A.; El-Khamry, A. A.; Soliman, A. Y.; Afify, A. A.; Kassab, E. A.
 CORPORATE SOURCE: Fac. Sci., Ain Shams Univ., Cairo, Egypt
 SOURCE: J. Chem. Soc. Pak. (1988), 10(3), 315-24
 CODEN: JCSPDF; ISSN: 0253-5106
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 111:7321
 IT 120996-43-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and reaction with hydrazines, pyridazinones from)
 RN 120996-43-2 CAPLUS
 CN 2-Furanol, 3,5-bis(2,4-dimethylphenyl)-, acetate (9CI) (CA INDEX NAME)



L10 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2002 ACS
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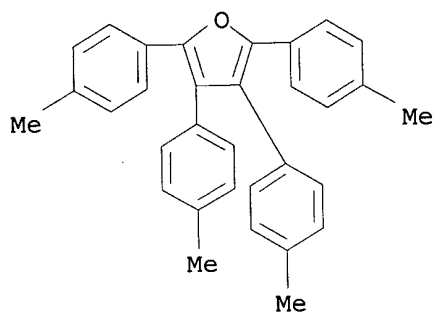


AB RCOCH(OH)R (I; R = Ph, 4-MeC6H4, 3-MeC6H4, 4-ClC6H4, 4-FC6H4, 4-PhC6H4) reacted readily with Me3CI to give mixts. of RCOCH2R and tetraarylfurans
 II. I [R = 4-MeOC6H4, 1-naphthyl, 3,4-(CH2O2)C6H3] gave only RCOCH2R.

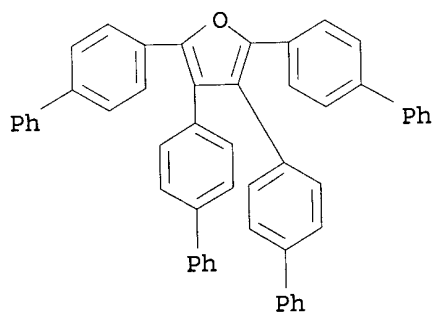
ACCESSION NUMBER: 1987:18278 CAPLUS
 DOCUMENT NUMBER: 106:18278
 TITLE: Iodotrimethylsilane reduction of benzoin: synthesis of deoxybenzoin and tetraarylfurans
 AUTHOR(S): Krepski, Larry R.; Heilmann, Steven M.; Rasmussen, Jerald K.; Tumey, Michael L.; Smith, Howell K., II
 CORPORATE SOURCE: 3M Cent., 3M Co., St. Paul, MN, 55144, USA
 SOURCE: Synth. Commun. (1986), 16(4), 377-86
 CODEN: SYNCAV; ISSN: 0039-7911

09/703,804

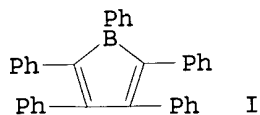
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 106:18278
IT 99643-62-6P 105770-34-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 99643-62-6 CAPLUS
CN Furan, tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 105770-34-1 CAPLUS
CN Furan, tetrakis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



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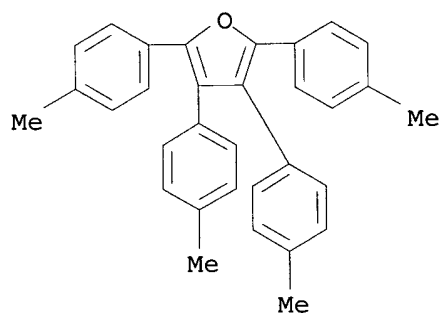


AB Pentasubstituted boroles, e.g., I, or boracyclopentadienes have been prepd. by two routes: (1) the interaction of an (E,E)-(1,2,3,4-tetraaryl-1,3-butadien-1,4-ylidene)dilithium in ether soln. with any aryl(dihalo)borane to form the borole etherate; and (2) the exchange reaction between a 1,1-dialkyl-2,3,4,5-tetraarylstannole in nondonor media to produce the unsolvated borole. The boroles are unexpectedly strong

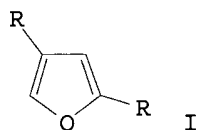
Delacroix

Lewis acids, complexing with amines and even ethers and nitriles, and very prone to oxidn., solvolytic cleavage, and Diels-Alder reactions. The foregoing chem. behavior, taken together with their unusual nuclear magnetic and electronic spectral properties, can be straightforwardly interpreted in terms of the Hueckel antiarom. character of the 4- π -electron boracyclopentadiene nucleus. By treating such nuclei as perturbed cyclopentadienyl π -systems, a qual. understanding of both the spectral and chem. properties can be attained. From such considerations, it is evident that the conjugation between the tricoordinate boron's 2pz-orbital and the 4 carbon butadienylidene array is destabilizing and is the source of the high reactivity of boroles.

ACCESSION NUMBER: 1986:109733 CAPLUS
 DOCUMENT NUMBER: 104:109733
 TITLE: Bora-aromatic systems. Part 8. The physical and chemical consequences of cyclic conjugation in boracyclopolyenes. The antiaromatic character of pentaarylboroles
 AUTHOR(S): Eisch, John J.; Galle, James E.; Kozima, Sinpei
 CORPORATE SOURCE: Dep. Chem., State Univ. New York, Binghamton, NY, 13901, USA
 SOURCE: J. Am. Chem. Soc. (1986), 108(3), 379-85
 CODEN: JACSAT; ISSN: 0002-7863
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 104:109733
 IT 99643-62-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and reactions of)
 RN 99643-62-6 CAPLUS
 CN Furan, tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

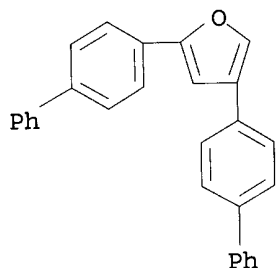


L10 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2002 ACS
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AB Phenacyl bromides RCOCH_2Br ($\text{R} = \text{Ph}$, anisyl, biphenyl, halophenyl, $\text{O}_2\text{NC}_6\text{H}_4$) underwent electrochem. redn. to the resp. furans I. Thus, PhCOCH_2Br (in a catholyte contg. LiClO_4 and DMF, anolyte: LiClO_4 in DMF) was reduced to give I ($\text{R} = \text{Ph}$).

ACCESSION NUMBER: 1981:568885 CAPLUS
 DOCUMENT NUMBER: 95:168885
 TITLE: Electrochemical synthesis of 2,4-diarylfurans
 AUTHOR(S): Barba, Fructuoso; Velasco, M. Desamparados; Guirado, Antonio
 CORPORATE SOURCE: Fac. Sci., Univ. Murcia, Murcia, Spain
 SOURCE: Synthesis (1981), (8), 625-6
 CODEN: SYNTBF; ISSN: 0039-7881
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 79421-36-6P
 RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. of)
 RN 79421-36-6 CAPLUS
 CN Furan, 2,4-bis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



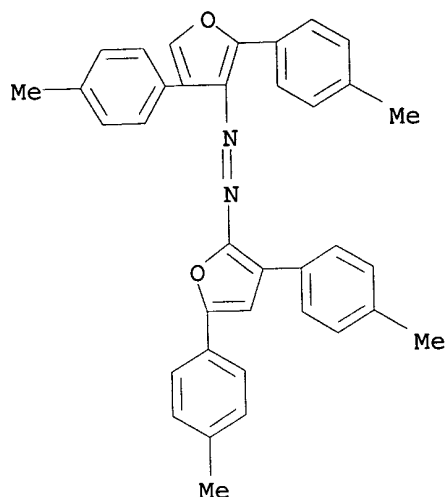
L10 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2002 ACS

AB cf. CA 62, 7903d. Aryl-substituted furandiazonium fluoroborates show, in part, reactions which differ from those of benzenediazonium salts. ArCOCHN_2 (I) ($\text{Ar} = \text{p-tolyl}$) (3.2 g.) in 25 cc. PhMe treated with 1.1 cc. $\text{BF}_3 \cdot \text{Et}_2\text{O}$ and 1 cc. $\text{p-MeC}_6\text{H}_4\text{COCl}$ under anhyd. conditions and the soln. heated 10 min. at 60-70.degree. until the end of N evolution, cooled, dild. with an equal vol. Et_2O , and kept cold 0.5 hr. gave 29.0% 2,4-di(p-tolyl)-5-furandiazonium fluoroborate (II), decompd. above 140.degree. ($\text{Me}_2\text{CO} \cdot \text{Et}_2\text{O}$). Similar treatment of I ($\text{Ar} = \text{m-tolyl}$) gave 19.6% 2,5-di(m-tolyl)-5-furandiazonium fluoroborate (III), decompd. 150-5.degree. ($\text{Me}_2\text{CO} \cdot \text{Et}_2\text{O}$). II suspended in a 10-fold amt. MeOH (III and its m-Cl analog in a 5-fold amt. MeOH) boiled .apprx.10 min. and cooled gave the following compds., resp.: 76% 2,2',4,4'-tetra(p-tolyl)-5,3'-azofuran, leaflets with Cu luster, m. 237-9.degree. (AcOH); 28% 2,2',5,5'-tetra(m-tolyl)-4,3'-azofuran, dark red, m. 131-4.degree. (AcOH); 40% 2,2',5,5'-tetrakis(p-chlorophenyl)-4,3'-azofuran, pale red, 162-4.degree. (AcOH). II (1.0 g.) suspended in 50 cc. cold EtOH treated with a catalytic amt. Naturkupper C, when the reaction subsided (N evolution) the soln. filtered hot and kept several hrs. in a deep-freeze unit, and the dried product chromatographed on Al_2O_3 with ligroine gave 80.1% 2,4-di(p-tolyl)furan, colorless, m. 130-1.degree. (ligroine). Similarly were prepd. 69.7% 2,4-bis(p-chlorophenyl)furan (IV), m. 128-9.degree. (ligroine), and 93.0% 2,5-bis(m-chlorophenyl)furan, m. 93-4.degree. (ligroine). KI (3.3 g.) in 20 cc. H_2O mixed with 20 cc.

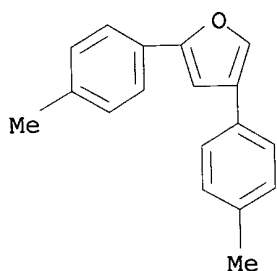
Me₂CO, 20 cc. ligroine, and a catalytic amt. Naturkupfer C, 1.67 g. 2,4-diphenyl-5-furandiazonium fluoroborate (V) added portionwise during 1 hr. with stirring, the mixt. stirred 1 hr., the ppt. filtered off and washed with ligroine, the org. phase sepd., dried, and evapd. to dryness in vacuo, the residue chromatographed (2,2',4,4'-tetraphenyl-5,3'-azofuran remained on the column), the eluate evapd. to dryness in vacuo, and the residue digested with a little ligroine (2,4-diphenylfuran extd.) and recrystd. from 10 cc. ligroine gave 0.46 g. 2,4-diphenyl-5-iodofuran, decompd. 123-4.degree.. 2,4-Bis(p-chlorophenyl)-5-furandiazonium fluoroborate treated similarly (the iodide, which gave a yellow-green color with concd. H₂SO₄, was eluted before IV, which gave a blue fluorescence with concd. H₂SO₄; the elution was interrupted when an evapd. drop of eluate showed a blue fluorescence with concd. H₂SO₄) gave 27.2% 2,4-bis(p-chlorophenyl)-5-iodofuran, decompd. 168-70.degree. (ligroine). Similar treatment of 2,4-di(2-naphthyl)-5-furandiazonium fluoroborate except that HCONMe₂ was used in lieu of Me₂CO and the product was chromatographed with 8:2 ligroine-C₆H₆ gave 2.2% 2,4-di(2-naphthyl)-5-iodofuran, decompd. 157-9.degree. (ligroine). V (3.34 g.) added during 1 hr. to a mixt. of 8 g. NaAsO₂ and 1 g. Na₂CO₃ in 80 cc. H₂O, a catalytic amt. CuCl, and 40 cc. Et₂O with stirring, the mixt. stirred 2.5 hrs., Et₂O evapd., the soln. filtered and acidified with 2N HCl, and the ppt. filtered off and repptd. from aq. NH₃ with 2N HCl gave 3.2% 2,4-diphenyl-5-furanarsonic acid, m. 328-9.degree. (tetrahydrofuran-ligroine). V (3.34 g.) in 260 cc. cold Me₂CO added dropwise during 1 hr. to a hot (60-70%) soln. of 2.4 g. KSCSOEt in 50 cc. H₂O with stirring (Me₂CO was continuously distd. during the addn. and finally was removed completely), the soln. cooled, dild. with 40 cc. Et₂O, and refrigerated 1 hr., the ppt. filtered off, washed with Et₂O, and extd. twice with boiling C₆H₆, and the combined exts. dild. with ligroine gave, in 2 crops, 0.6 g. (RS)₂CO (VI) (R = 2,4-diphenyl-5-furyl) (VII), m. 191-2.degree. (C₆H₆). Similarly was prepd. 6.4% VI [R = 2,4-di(p-tolyl)-5-furyl], m. 196-200.degree. (C₆H₆). VII (0.6 g.) suspended in 100 cc. EtOH refluxed 3 hrs. with 30 cc. 10% MeOH-KOH, .apprx. 100 cc. EtOH distd., the residual liquid dild. with 100 cc. H₂O, and the product isolated with Et₂O gave 44% bis(2,4-diphenyl-5-furyl) disulfide, m. 148-50.degree. (EtOH-H₂O).

ACCESSION NUMBER: 1965:58794 CAPLUS
DOCUMENT NUMBER: 62:58794
ORIGINAL REFERENCE NO.: 62:10395d-h,10396a-b
TITLE: The reactions of diazocarbonyl compounds. XV. The reactions with substituted furandiazonium fluoroborates
AUTHOR(S): Ried, Walter; Bodenstedt, Wolfgang
CORPORATE SOURCE: Univ. Frankfurt/Main, Germany
SOURCE: Ann. Chem. (1964), 679, 77-83
DOCUMENT TYPE: Journal
LANGUAGE: German
IT 1262-68-6, Furan, 2',3,4',5-tetra-p-tolyl-2,3'-azodi-
1446-76-0, Furan, 2,4-di-p-tolyl- 1687-87-2, Carbonic
acid, dithio-, S,S-bis(3,5-di-p-tolyl-2-furyl) ester
(prepn. of)
RN 1262-68-6 CAPLUS
CN Furan, 2',3,4',5-tetra-p-tolyl-2,3'-azodi- (7CI, 8CI) (CA INDEX NAME)

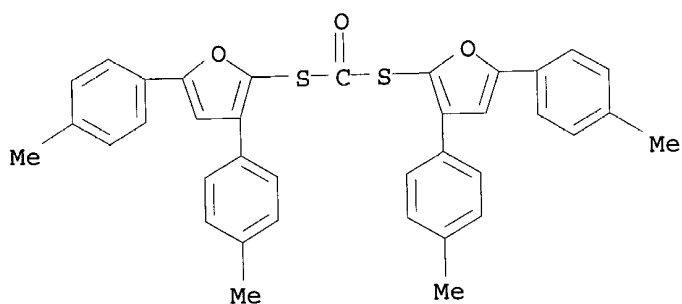
09/703,804



RN 1446-76-0 CAPLUS
CN Furan, 2,4-di-p-tolyl- (7CI, 8CI) (CA INDEX NAME)



RN 1687-87-2 CAPLUS
CN Carbonic acid, dithio-, S,S-bis(3,5-di-p-tolyl-2-furyl) ester (7CI, 8CI)
(CA INDEX NAME)



L10 ANSWER 14 OF 14 USPATFULL
AB Compounds according to the formula: ##STR1## wherein: R.sub.1 and R.sub.2 are each independently selected from the group consisting of H, loweralkyl, aryl, alkylaryl, aminoalkyl, aminoaryl, halogen, oxyalkyl,

oxyaryl, or oxyarylalkyl; R.sub.3 and R.sub.4 are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkylaryl, aryl, oxyaryl, aminoalkyl, aminoaryl, or halogen; and X and Y are located in the para or meta positions and are each selected from the group consisting of H, loweralkyl, oxyalkyl, and ##STR2## wherein: each R.sub.5 is independently selected from the group consisting of H, loweralkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, cycloalkyl, aryl, or alkylaryl or two R.sub.5 groups together represent C.sub.2 to C.sub.10 alkyl, hydroxyalkyl, or alkylene; and R.sub.6 is H, hydroxy, loweralkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylamino, alkylarninoalkyl, cycloalkyl, hydroxycycloalkyl, alkoxycycloalkyl, aryl, or alkylaryl; or a pharmaceutically acceptable salt thereof, are disclosed. The compounds are useful for treating Pneumocystis carinii in a subject in need of such treatment.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1999:170639 USPATFULL

TITLE: 2,4-bis[(4-amidino)phenyl]furans as anti-Pneumocystis carinii agents

INVENTOR(S): Boykin, David W., Atlanta, GA, United States
 Tidwell, Richard R., Pittsboro, NC, United States
 Wilson, W. David, Atlanta, GA, United States
 Francesconi, Iris, Atlanta, GA, United States

PATENT ASSIGNEE(S): The University of North Carolina at Chapel Hill, Chapel Hill, NC, United States (U.S. corporation)
 Georgia State University, Atlanta, GA, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6008247		19991228	<--
APPLICATION INFO.:	US 1998-32586		19980227	(9)
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	Granted			
PRIMARY EXAMINER:	Richter, Johann			
ASSISTANT EXAMINER:	Solola, Taofiq A.			
LEGAL REPRESENTATIVE:	Myers Bigel Sibley & Sajovec			
NUMBER OF CLAIMS:	24			
EXEMPLARY CLAIM:	1			
LINE COUNT:	911			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 229308-77-4P 229308-78-5P 229308-83-2P

242807-42-7P 242807-43-8P 242807-44-9P

242807-45-0P 242807-46-1P 242807-47-2P

242807-48-3P 242807-49-4P 242807-50-7P

242807-51-8P 242807-52-9P 242807-53-0P

242807-54-1P 242807-55-2P 242807-56-3P

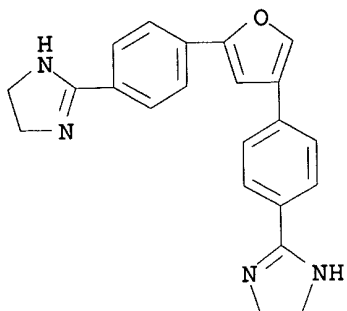
242807-57-4P 242807-58-5P 242807-59-6P

(prepn. of 2,4-bis(4-amidinophenyl)furans as anti-pneumocystis carinii agents)

RN 229308-77-4 USPATFULL

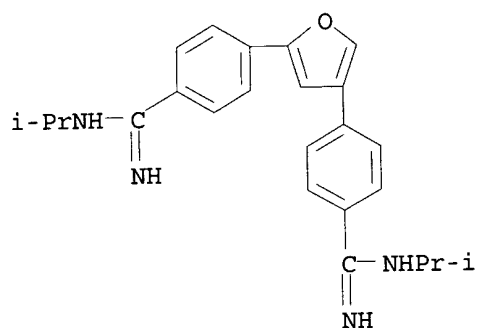
CN 1H-Imidazole, 2,2'-(2,4-furandiyl-di-4,1-phenylene)bis[4,5-dihydro-, dihydrochloride (9CI) (CA INDEX NAME)

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● 2 HCl

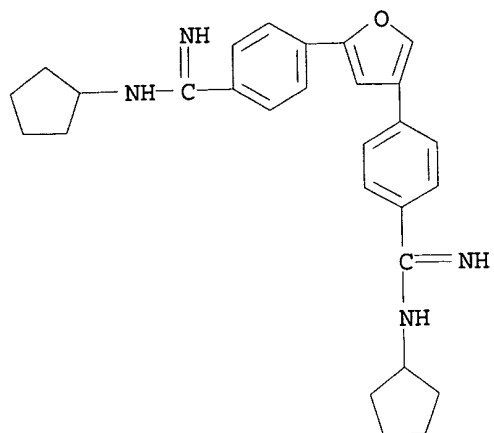
RN 229308-78-5 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(1-methylethyl)-,
dihydrochloride (9CI) (CA INDEX NAME)



● 2 HCl

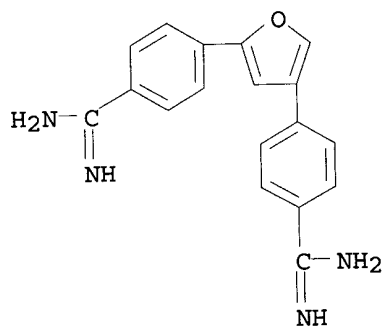
RN 229308-83-2 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopentyl-,
dihydrochloride (9CI) (CA INDEX NAME)

09/703,804

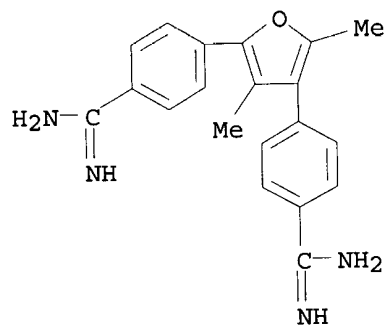


●2 HCl

RN 242807-42-7 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis- (9CI) (CA INDEX NAME)



RN 242807-43-8 USPATFULL
CN Benzenecarboximidamide, 4,4'-(3,5-dimethyl-2,4-furandiyl)bis- (9CI) (CA INDEX NAME)

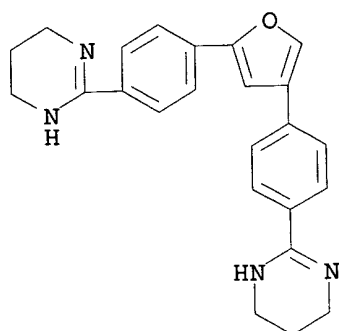


RN 242807-44-9 USPATFULL

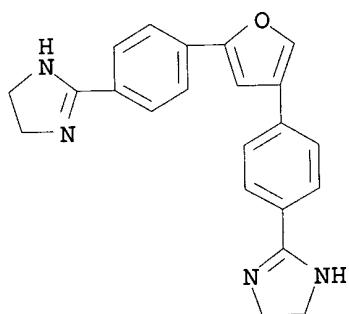
Delacroix

09/703,804

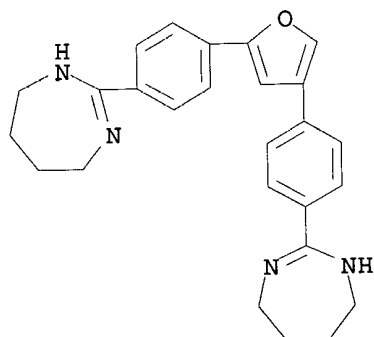
CN Pyrimidine, 2,2'-(2,4-furandiyl-di-4,1-phenylene)bis[1,4,5,6-tetrahydro-
(9CI) (CA INDEX NAME)



RN 242807-45-0 US PATFULL
CN 1H-Imidazole, 2,2'-(2,4-furandiyl-di-4,1-phenylene)bis[4,5-dihydro- (9CI)
(CA INDEX NAME)



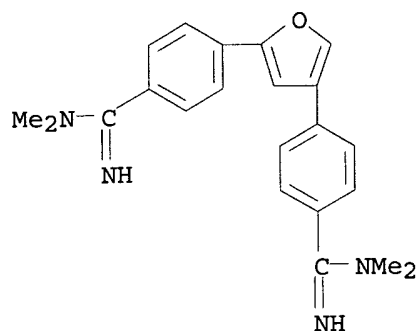
RN 242807-46-1 US PATFULL
CN 1H-1,3-Diazepine, 2,2'-(2,4-furandiyl-di-4,1-phenylene)bis[4,5,6,7-
tetrahydro- (9CI) (CA INDEX NAME)



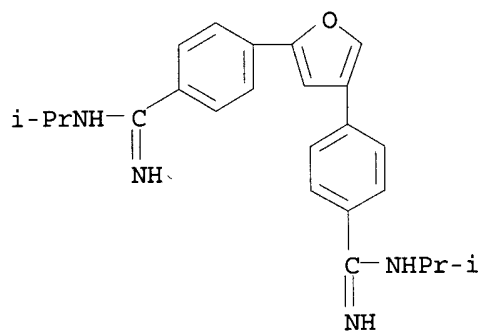
RN 242807-47-2 US PATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N,N-dimethyl- (9CI) (CA
INDEX NAME)

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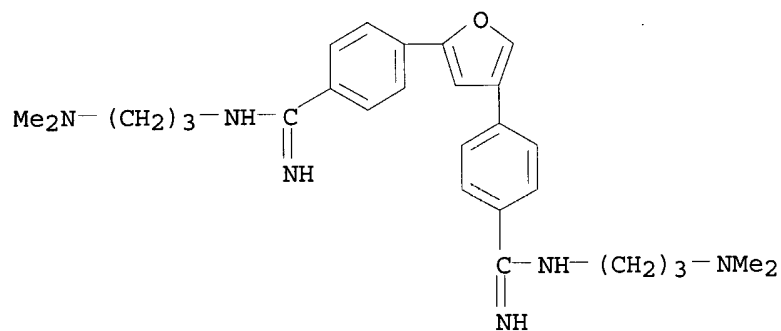
09/703,804



RN 242807-48-3 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(1-methylethyl)- (9CI)
(CA INDEX NAME)

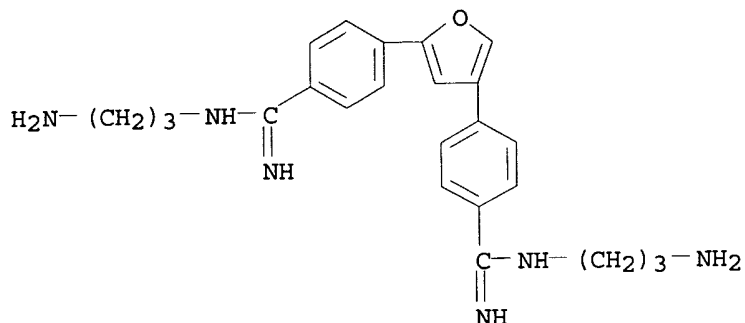


RN 242807-49-4 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[3-(dimethylamino)propyl]- (9CI) (CA INDEX NAME)



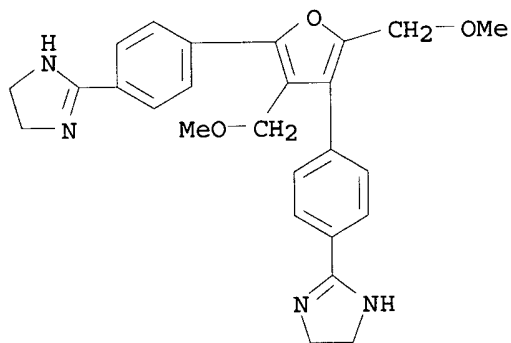
RN 242807-50-7 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(3-aminopropyl)- (9CI)
(CA INDEX NAME)

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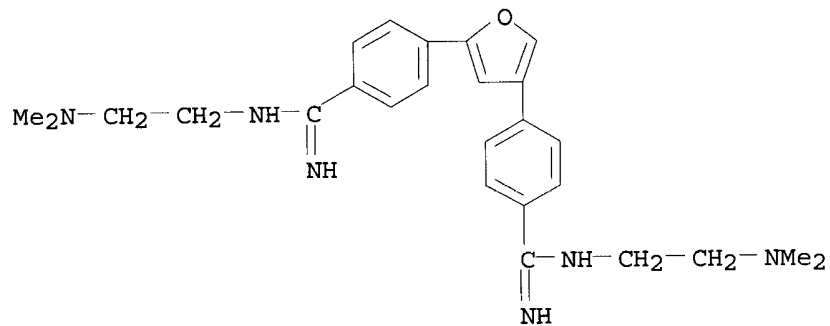
RN 242807-51-8 USPATFULL

CN 1H-Imidazole, 2,2'-[[3,5-bis(methoxymethyl)-2,4-furandiyl]di-4,1-phenylene]bis[4,5-dihydro- (9CI) (CA INDEX NAME)



RN 242807-52-9 USPATFULL

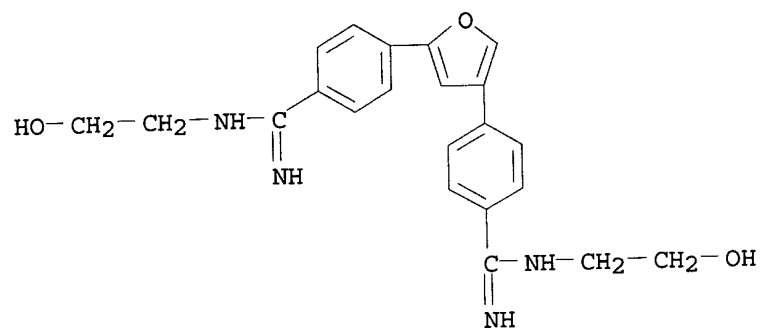
CN Benzenecarboximidamide, 4,4'-((2,4-furandiyl)bis[N-[2-(dimethylamino)ethyl]- (9CI) (CA INDEX NAME)



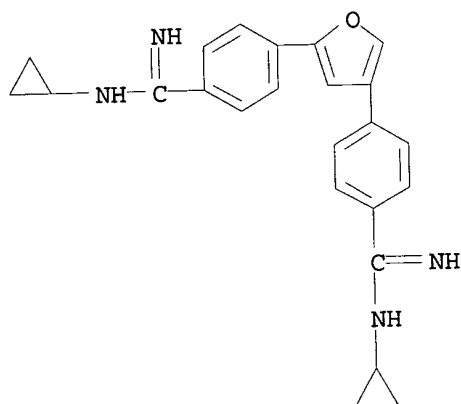
RN 242807-53-0 USPATFULL

CN Benzenecarboximidamide, 4,4'-((2,4-furandiyl)bis[N-(2-hydroxyethyl)- (9CI) (CA INDEX NAME)

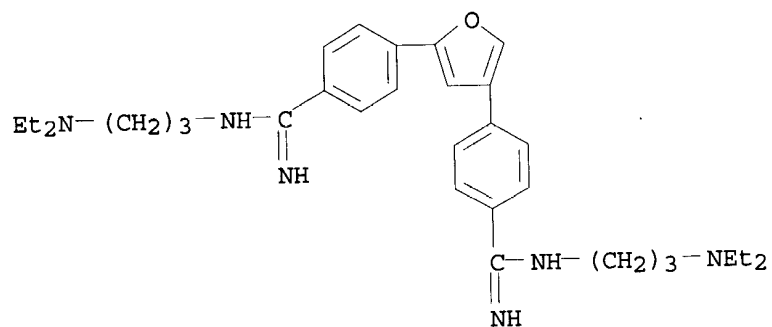
09/703,804



RN 242807-54-1 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopropyl- (9CI) (CA INDEX NAME)

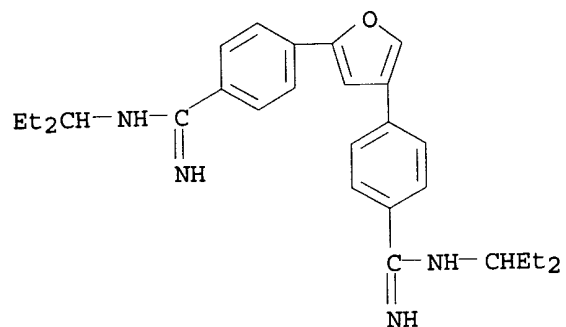


RN 242807-55-2 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[3-(diethylamino)propyl]- (9CI) (CA INDEX NAME)

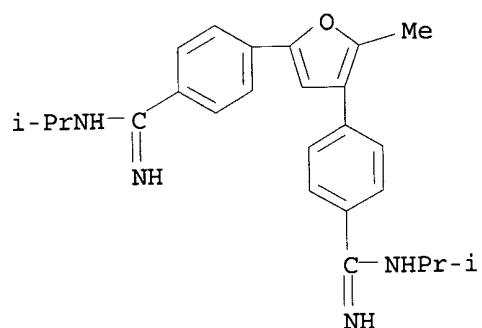


RN 242807-56-3 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(1-ethylpropyl)- (9CI) (CA INDEX NAME)

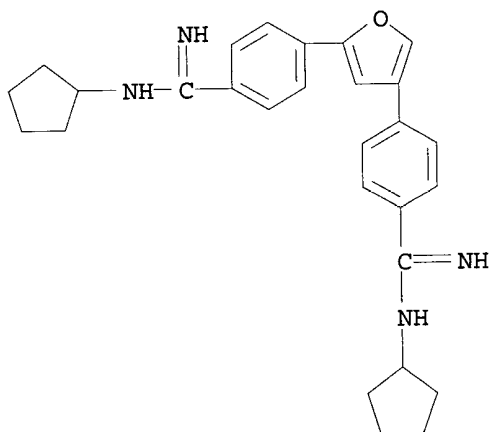
09/703,804



RN 242807-57-4 USPATFULL
CN Benzenecarboximidamide, 4,4'-(5-methyl-2,4-furandiyl)bis[N-(1-methylethyl)-
(9CI) (CA INDEX NAME)

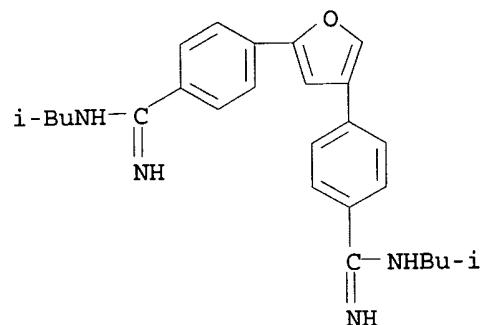


RN 242807-58-5 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopentyl- (9CI) (CA
INDEX NAME)

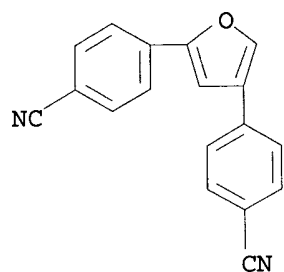


RN 242807-59-6 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-methylpropyl)- (9CI)
(CA INDEX NAME)

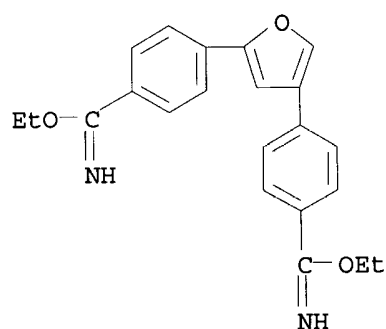
09/703,804



IT 229308-74-1P 229308-75-2P 229308-76-3P
229308-81-0P 242807-61-0P
(prepn. of 2,4-bis(4-amidinophenyl)furans as anti-pneumocystis carinii
agents)
RN 229308-74-1 USPATFULL
CN Benzonitrile, 4,4'-(2,4-furandiyl)bis- (9CI) (CA INDEX NAME)



RN 229308-75-2 USPATFULL
CN Benzenecarboximidic acid, 4,4'-(2,4-furandiyl)bis-, diethyl ester,
dihydrochloride (9CI) (CA INDEX NAME)



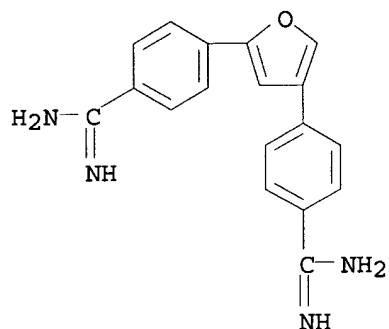
● 2 HCl

RN 229308-76-3 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis-, dihydrochloride (9CI)

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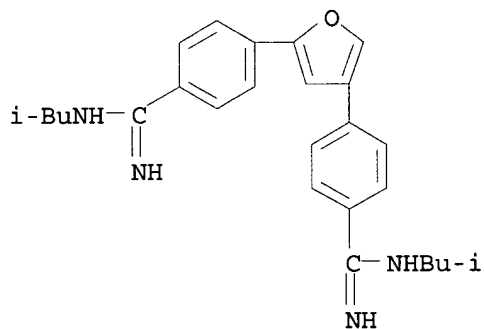
(CA INDEX NAME)



●2 HCl

RN 229308-81-0 USPATFULL

CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-methylpropyl)-, dihydrochloride (9CI) (CA INDEX NAME)

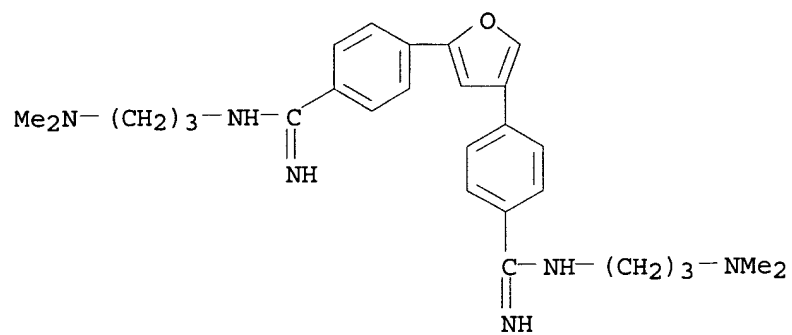


●2 HCl

RN 242807-61-0 USPATFULL

CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[3-(dimethylamino)propyl]-, tetrahydrochloride (9CI) (CA INDEX NAME)

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●4 HCl